



# Radegen Biotechnology™

11/29/2022

**2022.11.29 Project Skunkworks: Tth+Start Polymerase™, Psp Vent Polymerase™, and Pwo Fusion Polymerase™**

**By Fernando Andrade, M.S. CEO. Director of Skunkworks Division.**

> Tth+Start Polymerase™

MHHHHHHSSGLVPRGSGMKTAAAKFERQHMDSPDLGTDDDDKMEAMLPLFEPKGRVLLVDGHHLAYRTFFALKGLTTSRGEPVQAVYGFAKSLKA  
LKEDGYKAVFVFDAKAPSFRHEAYEAKAGRAPTPEDFPRQLALIKEVL DLLGFTRLLEVPGYEADDVLATLAKKAEKEGYEVRLTADRDLYQLVS  
DRVAVLHPEGHLITPEWLWEKYGLRPEQWVDFRALVGDPSENLPGVKGIGEKTALKLLKEWSLENLLKNLDRVKPENVREKIKAHLEDLRLSLELS  
RVRTDLPLEVDLAQGREPDREGLRAFLERLEFGSLLHEFGLLLEAPAPLEAPWPPPPEGAFVGFVLSRPEPMWAELKALAACRDGRVHRAADPLAGLK  
DLKEVRGLLAKDVLASREGLDLVPGDDPMLLAYLLDPSNTTPEGVARRYGGEWTEAAHRALLSERLHRNLLKRLEGEEKLLWLYHEVEKPLSRV  
LAHMEATGVRLDVAYLQALSLEAAEIRLLEEEVFLAGHPFNLNSRQLERVLFDLRLPALGKTQKTGKRSTSAAVLEALREAHPIVEKILQHRE  
LTKLKNTYVDPLPSLVHPRTGRLHTRFNQTATATGRLSSSDPNLQNJIPVRTPLGQRIRRAFVAEAGWALVALDYSQIELRVLAHSGDENLIRVFQE  
GKDIHTQTASWMFGVPPEAVDPLMRRAAKTVNFGVLYGMSAHLRSQELAIPYEEAVAFIERYFQSFPKVRAWIEKTLEGRKRGYVETLFGRRYVP  
DLNARVKSVREAAERMAFNMPVQGTAADLMKLMVLFPRLREMGMARMLLQVHDELLLEAPQARAEEVAALAKEAMEKAYPLAVPLEEVGMGEDWL  
SAKG\*

> StartTth Aptamer™

tggcggagcgatcatctcagagcattcttagcgttttttcttgtatgattggccggcaatgtacagtattggccggc

> Pwo Fusion Polymerase™

MHHHHHHSSGLVPRGSGMKTAAAKFERQHMDSPDLGTDDDDKMLDVYITEEGKPVIRLFKKENGKFKIEHDRTFRPYIYALLRDDS KIEEVKKI  
TGERHGKIVRIVDVEKVEKKFLGKPI TVKLYLEHPQDVPTIREKVREHPAVVDIFEYDIPFAKRYLIDKGLIPMEGEELKILA FDIETLYHEGEE  
FGKGPIMISYADENEAKVITWKNI DLPVVEVSSEREMIKRFLRIREKD PDIIVTYNGDSFDFPVLAKRAEKGKLTIGRDGSEPKMQRIGDMT  
AVEVKGRHIHFDLYHVITRTINLPTY LEAVYEAI FGKPKEKVYADEIAKAWESGENLERVAKYSMEDAKATYELGKEFLPMEIQLSRLVQPLWDVS  
RSSTGNLVEWFLLRKAYERNEVAPNKPSEEEYQRRRLRESYTGGFVKEPEKGLWENIVYLDFRALYPSIIITHNVSPDTLNLEGCKNYDIAPQVGHKF  
CKDIPGFIPSLLGHLLERQKIKTKMKETQDPIEKILLDYRQKAIKLLANSFYGGYAKARWYCKECAESVTAWGRKYIELVWKELEEKFGFKVLY  
IDTDGLYATIPGGESEEIKKKALEFVKYINSKLPGLELEYEGFYKRGFFVTKKRYAVIDEEGKVITRGLEIVR RDWSEIAKETQARVLETILKHGD  
VEEAVRIVKEVIQKLANYEIPPEKLAIYEQITRPLHEYKAIGPHVAVAKLAAGVVKIKPGMVGIVYI VLRGDGPISNRAILAEYDPKKH KYDAEYY  
IENQVLPAVLRILEGFGYRKEDLRYQKTRQVGLTSWLNKKSATVKFKYKGEEKEVDISKIKK VWRVGK M ISFTYDEGGGKTGRGAVSEKDAPKELL  
QMLEKQKK\*

### > Psp Vent Polymerase™

MHHHHHHSSGLVPRGSGMKETAAKFERQHMDSPDLGDDDDKMIIDADYITEDGKPIIRFKKEGFEKVFVEYDRTFRPYIYALLKDDSAIDEVKKI  
TAERHGKIVRITEREVEKVQKKFLGRPPIEVWKLYLEHPQDVPaireKIREHPAVWDIFEFYDIPFAKRYLIDKGLTPMEGNEELTFLAVDIETLYHEGEE  
FGKGPIIMISYADEEGAKVITWKSIDLIVEVVSEREMIKRLVKVIREKDPDVIIITYNGDNDFPYLLKRAEKGKLGKPLGRDNSEPKMQRMGDSDL  
AVEIKGRIHFDFLPVIRRTINLPTYLEAVYEATFGKSKEKVYAHETIAEWETGKGLERVAKYSMEDAKVTFELGKEFFPMEAQLARLVQGPVWDVS  
RSSTGNLVFWFLLRKAYERNELAPNPKDEREYERRLRESYEGGYVKEPEKGLWEGIVSLDFRSLSYPSIIITHNVSPDTLNRENCKEYDVAPQVGHRF  
CKDFPGFIPSLLGNLLEERQKIKKRMKESKDPVEKKLLDYRQRAIKILANSYYGGYAKARWYCKECAESVTAWGRQYIDLVRRELESSGFKVLYI  
DTDGLYATIPGAKPNEIKEKALKFVFVEYINSKLPGLLELEYEGFYARGFFVTKKYALIDEEGKIVTRGLEIVRWDWSEIAKETQAKVLEAILKHGNV  
DEAVKIVKEVTEKLSKYEIPPEKLVIEQITRPLSEYKAIGPHVAVAKRLAAKGVVKVPGMVIGYIVLVRGDGPISKRAIAIEEFDPKKKHYDAEYYI  
ENQVLPVERILRAFGYRKEDLRYQKTQVGLGAWLKF\*

## > Psp(-exo) Vent Polymerase™

MHHHHHHSSGLVPRGSGMKETAAAKFERQHMDSPDLGTTDDDKMIIDADYITEDGKPIIRFKKEKGEFKVVEYDRTFRPYIYALLKDDSAIDEVKKI  
TAERHGKIVRITEVEKVQKKFLGRPIEVWKLYLEHPQDVPAIREKIREHPAVWDIFEYDIPFAKRYLIDKGLTPMEGNEELTFLAVAIATLYHEGEE  
FGKGPIIMISYADEEGAKVITWKSIDLVPYVEVVSEREMIKRLVKVIREKDPDVIIITYNGDNDFPYLLKRAEKGKPLGRDNSEPKMQRMGDSL  
AVEIKGRHIFDLFPVIRRTINLPTTYLEAVYEAFGKSKEKVAHYEIAEAWETGKGLERVAKYSMEDAKVTFELGKEFFPMEAQLARLVLGQPVWDVS  
RSSTGNLVEFWFLLRKAYERNELAPNPKDEREYERRLRESYEGGYVKEPEKGLWEGIVSLDFRSLSYPSIIITHNVSPDTLNRENCKEYDVAPQVGHRF  
CKDFPGFIPSLLGNLLEERQKIKKRMKESKDVKVEKKLLDYRQRAIKILANSYYGGYAKARWYCKECAESVTAWGRQYIDLVRRELESSGFKVLYI  
DTDGLYATIPGAKPNKEIKEKALKFVVEYINSKLPGLLELEYEGFYARGFFVTKKYALIDEEGKIVTRGLEIVRIRDWSEIAKETQAKVLEAIIKHNGV  
DEAVKIVKEVTEKLSKYEIPPEKLVIEQITRPLSEYKAIGPHVAVAKRLAAKGVKVKPGMVIGYIVLRLRGDGPISKRAIAIEEFDPKKHKYDAEYYI  
ENQVLPAPAVERILRAFGYRKEDLRYQTKQVGLGAWLKF\*

## > Pfu+ UTPase™

MHHHHHHSSGLVPRGSGMKETAAKFERQHMDSPDLGDDDKMLHHVKLIYATKSRKLGVKKIVLAIPGSIAAVECVKLARELIRHGAEVHVMSE  
AAKIIHYPAMEFATGNPVITEITGFIEHVELAGEHENKADLILVCPATANTISKIACGIDDPVTTVTTAFPHIPIMIAPAMHETMYRHPIVREN  
IERLKKLGVEFIGPRIEGKAKVASIDEIVYRVIKKLHKKTLEGKRVLVTAGATREYIDPIRFITNASSGKMGVALAEADFRGAEVTLIRTKGSK  
SFVENQIEVETVEEMLSAIENLRSKKYDVVIMAAAVSDFRPKIKAEGKIKSDRSITIELVPNPKIIDRIKEIQPNVFVLVGFKAETSKEKLIEEGKR  
QIERAKADLVGNTLEAFGSEENQVVLIGRDFTKELPKMKKRELAERIWEIEKLLS\*